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ABSTRACT

This study was designed to determine teachers' perceptions of their informal and formal communications with students and to determine if the biological sex and the psychological sex of teachers were salient variables to understand differences among groups on dependent measures. A four-page questionnaire consisting of Bem's Sex Role Inventory, an Unwillingness-to-Communicate Scale, and content and presentation scales were sent to 151 teaching associates. Results were somewhat misleading as both males and females were found to view themselves positively in terms of interpersonal and formal communications. Other findings showed teachers to be more confident in formal communications with students, and the androgynous and masculine teaching associates to be rated higher than other psychological sex groups on dependent measures. Overall, the results revealed that teachers have positive perceptions of their communication with students. (HOD)

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Teaching Assistants' Perceptions of Formal and Informal Communications with Students

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The importance of the dynamic communication process between teacher and student has been developed and discussed by a voluminous number of researchers. For example, research by Rominie (1973) indicated that students perceived teachers' formal communication with them to range from fair to poor. Another study by McDowell (1975) revealed that students considered teacher credibility, delivery, content and feedback as the important formal communication variables in evaluating teachers. Other research by Coffman (1954) and by Anderson, Alpert and Golden (1977) suggested that teaching effectiveness was found to vary directly with perceived empathy, competence, stage presence and excitement.

Studies by Anderson (1970) and Hall (1970) attempted to identify what constitutes effective teaching and appropriate methods to measure teaching effectiveness based on informal communication with students. Likewise, there have been numerous studies completed on informal communications between teachers and students. These studies concluded that interaction with students increased students' interest in the subject area. Chickering (1969) designed a study to assess student, faculty informal interaction on the development of intellectual and general competence as well as a sense of autonomy and purpose. He concluded that there is a positive impact on student-faculty interactions on the development of intellectual competence, academic achievement, advanced education and career goals. In addition, there have been a series of studies completed by Pascarella and his associates during the past few years (1977, 1977, 1978, 1978). These studies conclude that an informal nonclassroom setting is particularly suited for faculty influence on students' attitudes, values and behaviors. As a result of teachers' interpersonal relationships with students,

students develop higher levels of academic and social integration. These studies also revealed that students are more apt to discuss basic information concerning courses they are enrolled in or career concerns than to socialize informally or discuss personal problems. Thus, there is limited, intimate disclosure between teachers and students. In sum, based on the review of literature, the importance of both informal and formal communications between teachers and students enhances learning and social development.

The above studies focused on students' perceptions of teachers in formal and informal communication situations. An examination of educational and communication journals revealed that no studies have been completed to determine teachers' perceptions of their communications with students nor to determine if teachers' perceptions are congruent with students' perceptions. This study will examine teachers' perceptions of both interpersonal and formal communication with students. This appears to be a viable study as teachers' perceptions of their communications influence the interpersonal and formal communication between teachers and students.

In addition, this study will determine if past communication research which focused on the dynamic communication process is applicable in terms of biological and psychological sex of teachers. That is, traditional sex role stereotypes indicate that males are aggressive, dominant, independent, unemotional and task-oriented, whereas females are passive, submissive, need security express tender feelings and are person-oriented.

For example, research reported by Bales (1950) and Hare, Borgotta and Bales (1965) and Bales indicated in direct communication situations males tended to be more task-oriented and females more social-oriented. These

findings add support to the concept of sex-role stereotypes. Loomis (1959) also concluded that women evaluated themselves as social-oriented and men as task-oriented. If these results are applicable to teachers' communication with students, then female teachers should be more interpersonally-centered and male teachers more concerned with formal presentations.

In 1971 Bem challenged the reliability and validity of past sex role inventory instruments. She theorized that masculinity and femininity are independent dimensions rather than opposite ends of a single dimension (a bipolar, unidimensional concept), that both dimensions (males and females) are characterized by their own unique set of positive-valued attributes, and finally that masculinity and femininity are measured by using separate scales which are logically and empirically independent.

In order to test the psychological sex role theory, Bem (1974) developed the Bem Sex Role Inventory (BSRI). The instrument is designed to classify participants into four psychological sex groups. Participants can be classified as psychologically masculine, psychologically feminine, androgynous--a blend of both male and female characteristics, and undifferentiated--low in both masculine and feminine characteristics. In three studies, androgynous men and women behaved similarly in the same situations while sex-typed or sex-reversed displayed traditional sex-role stereotypes (1975, 1976).

Other research using the BSRI also revealed androgynous individuals behaved differently than other psychological sex-types. The Eman and Morse study (1977) confirmed that androgynous individuals expressed higher degrees of self-esteem, self-acceptance and acceptance of others than groups of masculine, feminine and undifferentiated identified individuals. Greenblatt,

Hasenauer and Freimuth's study (1977) revealed psychological sex-type is a more precise predictor than biological sex. That is, psychologically feminine and androgynous individuals disclose more information about themselves and are psychologically more healthy than masculine or undifferentiated individuals. In addition, the study revealed that androgynous subjects experience less speech apprehension than traditionally sex-typed people. Montgomery and Burgoon's study (1977) also supported Bem's theory. In all of the above studies psychological sex was a better predictor than biological sex. By using psychological sex as an independent variable, within group variance is decreased and between group variance is increased. This has increased the reliability and validity of sex-role research.

A study by McDowell and McDowell (1979) that focused on interpersonal communication in small groups situations revealed that members of different psychological sex groups utilized different verbal cues. That is, males were task-oriented, females were social-oriented, and androgynous were balanced in terms of task and social communication, and undifferentiated engaged in little interaction with other group members. In this study psychological sex was a better predictor of stereotype behaviors than biological sex. In addition, psychological sex controlled for more within group variance and increased between group variance which increased the rigor of the statistical significant results and the practical significance of the results.

Based on past communication research biological and psychological sex were important independent measures to determine interactional or informal communications. No studies dealing with teachers' perceptions of their communication have been completed to determine if results produced in communication studies are applicable in teacher-student interpersonal and formal communications. The purpose of this exploratory study is to determine teachers' perceptions

of the dynamic communication process with students.

The research questions are:

1. Will there be differences between the means of biological sex groups (male and female) in rating dimensions of interpersonal communication and formal communication?
2. Will there be differences among the means of psychological sex groups (androgynous, masculine, feminine, and undifferentiated) in rating dimensions of interpersonal communication and formal communication?
3. Will there be an interaction effect between biological sex groups and psychological sex groups in rating dimensions of interpersonal and formal communication?
4. Will there be significant relationships between and among interpersonal and formal communication variables?

Method

A posttest design was used in this study. Systematic, random sampling was utilized to select 151 teaching associates from the various University of Minnesota campuses which was 26 percent of the entire population.

A four page questionnaire with a cover letter and a pre-addressed return envelope was mailed to the teaching associates. The questionnaire consisted of Bem's Sex Role Inventory, Unwillingness-to-Communicate Scale, content and presentation scales. Biological sex and psychological sex were used as independent variables. Approximately 81 percent completed and returned the questionnaire.

Two-way analysis of variance were completed to determine differences between biological sex groups, among psychological sex groups and interaction effects. Post hoc analyses were completed using the Scheffe procedure to determine differences between psychological sex groups and for groups where interaction occurred among levels of the independent variables. The Scheffe procedure was selected as it is more rigorous than other multiple

comparison methods with regards to Type I error. Pearson correlations coefficients were used to determine relationships between and among informal and formal communication variables.

Instruments

A. Bem's Sex Role Inventory

The BSRI, published in 1974, consists of 60 personality characteristics: 20 masculine items, 20 feminine items, and 20 social desirability items. Factor analytic techniques were used to determine unidimensional items for each category. Through this procedure, 20 items were selected for the masculinity scale, 20 items for the feminine scale, and 20 items for the social desirability scale.

The response categories consist of one ("never true of me") to seven ("always true of me"). In this study median scores were used to determine whether to classify a teacher as androgynous, masculine, feminine or undifferentiated. The medians were 104 for masculine and 99 for feminine items. The following operational definitions were used to determine psychological sex groups:

Androgynous--both masculine and feminine scores above the median

Masculine--masculine scores above the median

Feminine--feminine scores above the median

Undifferentiated--both masculine and feminine scores below the median.

B. Unwillingness-to-Communicate Scale

In 1975 Burgoon designed the unwillingness-to-communicate instrument which focuses on anomia, alienation, introversion, self-esteem, and communication apprehension. The original instrument consisted of 38 items. A varimax rotation produced two

factor solution: 1) communication with family and friends (approach-avoidance) and 2) communication with others (rewards). In this study the instrument was altered so that teachers could rate themselves in terms of their interpersonal communications with students. The response categories vary from one (strongly agree) to five (strongly disagree). Varimax rotated factor matrix was completed to determine unidimensional items.

C. Content and Presentation Variables

Semantic differential scales were randomly selected from Anderson, Alpert, and Golden's (1977) study and McDowell's (1975) study to determine unidimensional items for content and presentation variables. The response categories varied from one (most negative) to seven (most positive).

Results

Initially, factor analyses were completed on the three dependent variables. Tables 1 through 3 indicate that all scales are unidimensional and account for the following percentages of variance: 64.2 percent for the Unwillingness-to-Communicate Scale, 75 for the content scale, and 87.4 for the presentation scale. Because of the exploratory nature of the study, the original Unwillingness-to-Communicate Scale consisting of two factor solution was also analyzed.

The result reported in Table 5 indicates significant differences existed between biological sex groups on both interpersonal communication dimensions, the composite Unwillingness-to-Communicate scales and on the content scale. Significant differences also occurred among psychological sex groups on the approach-avoidance dimension, composite Unwillingness-to-Communicate scale and for the presentation dimension, but no significant differences occurred

among groups on the reward dimension and content dimension. There were no interaction effects. Significant relationships occurred among all variables (see Table 7).

Post hoc analyses were computed for each of the dependent measures where significant differences occurred among psychological sex groups. These results, reported in Table 6, indicate significant differences between androgynous and masculine groups, androgynous and feminine groups, and androgynous and undifferentiated groups on the approach-avoidance dimension, and between androgynous and feminine groups on the unwillingness-to-communicate variable. Significant differences also occurred between androgynous and feminine groups on the content and presentation dimensions.

Discussion

As indicated in the introduction, this exploratory study was designed to determine teachers' perceptions of their informal and formal communications with students and to determine if biological and psychological sex groups were salient variables to understand differences among groups on dependent measures. An examination of the means reveal that marginal, yet significant differences, exist between biological sex groups on dependent measures (see Table 4). These results, however, are somewhat misleading as both males and females view themselves quite positively in terms of interpersonal and formal communications. For example, only 20 percent rated themselves negatively on the unwillingness-to-communicate dimension, one percent on the content dimension, and one percent on the presentation dimension. The high within group variances on dependent measures and low between group variances on dependent measures support the hypothesis that biological sex is not a good discriminating variable to determine differences for teachers'

9

perceptions of their informal and formal communications. Based on these findings, teachers appear considerably more confident in formal communications than informal communications with students.

The means for the psychological sex groups revealed wider differences among groups than for the biological sex groups. Androgynous and masculine teaching associates rated themselves higher than other psychological sex groups on dependent measures. Marginal differences occurred among groups in terms of negative perceptions of their informal and formal communication. That is, 36 percent of feminine, 33.3 percent of undifferentiated, and 13.5 percent of masculine rated themselves negatively on the composite Unwillingness-to-Communicate scale, whereas only 5.9 of androgynous members rated themselves negatively.

An interpretation of these results indicate that androgynous teachers' perceptions support previous research that utilized the psychological sex construct as an independent variable. That is, Bem's contention that androgynous individuals will be a blend of both male and female characteristics seems applicable in this study as androgynous teachers rated themselves higher on informal and formal communications than other psychological sex groups. The results for the masculine group also supported previous communication research. The results for psychologically feminine teachers did not support previous research. Feminine participants had higher Unwillingness-to-Communicate scores than other psychological sex groups. Based on previous research feminine individuals should be more interpersonally centered than other psychological sex groups. In addition, based on previous research undifferentiated members should have lower perceptions of their informal and formal communications than other psychological sex groups. These findings did not

support previous research.

Several reasons might explain why these results occurred. First, the scores on Bem's Sex Role Inventory might indicate that some teachers were placed in inappropriate psychological sex categories. That is, there is a need to develop standardized median scores for psychological sex categories so that each researcher does not create the categories by using median scores or the statistical procedure advanced by Bem. Second, the high scores on dependent measures might mean that teachers have high positive perceptions of their communication with students but may not necessarily have the same perception when communicating with peers or superiors.

The correlational analyses revealed that teachers who have positive perceptions of their informal communications with students also feel that they have good formal communications. For example, teachers who rated themselves low in their unwillingness-to-communicate rated themselves high on content and presentation dimensions. The magnitude of the correlation between informal and formal scores, however, controlled for only a marginal percentage of variance.

Overall the results of this study revealed that teachers have positive perceptions of their communication with students. Additional research is needed to determine if the results are representative of the college teacher population. It might be that teaching experience is an important variable in teachers' perceptions of interpersonal and formal communications. For example, in this study, post hoc analysis revealed that teaching associates with the least experience rated themselves highest on informal and formal communications. If these results are representative, more experienced teachers might be more inclined to create interpersonal distance between students and

themselves or more experienced teachers might have a more realistic viewpoint of their informal and formal communication. Research is also needed to determine if elementary and high school teachers have similar perceptions as college teachers.

Other research also needs to be conducted to determine if more variance can be controlled for in rating informal and formal communication variables. For example, in this study significant correlations occurred between teachers' perceptions of their informal and formal communication with students, but only a marginal percentage of variance was controlled for. Several exploratory studies should be completed to determine if types of courses, class size, age of teachers, sex of teacher and student, academic level of students, teaching methods, personality factors of teachers are intervening variables that would help explain the variance. One study might focus on teachers' perceptions of their communications using colleges within the university as an independent variable. Another study might focus on teachers' perceptions over time. Thus, a longitudinal panel study could be conducted.

Additional interpersonal and formal communication instruments should be examined to determine if the ones used in this study are the best ones to be used to assess teachers' perceptions of their informal and formal communication. That is, there is a need to determine specific types of interpersonal communication such as intellectual or course related matters, career concerns, resolving personal problems, or to socialize informally. For example, a study by Pascarella and Terenzini (1978a) indicated that students disclose impersonal information to teachers. A study could be conducted to determine if students disclose more personal information to their interpersonal communication teacher than other teachers. Other instruments might also be used

to determine perceived similarities of students toward their teachers and examine how this affects their interpersonal communication with teachers. For example, the Interpersonal Solidarity Instrument developed by Anderson (1979), attentive instrument developed by Norton and Pettegrew (1979), Homophily developed by McCroskey, Richmond and Daly (1975), Personal Report of Communication Apprehension developed by McCroskey (1970) might be used to better understand students' perceptions of their informal communication with teachers and teachers' perceptions of students' informal communications.

In addition to studies whose major focus is on informal communication, there is a need to continue to explore formal communication of teachers. Past research by Brim (1958), Getzels and Jackson (1963), and Cyhert (1972) has concluded investigators know relatively little more today about what constitutes good teaching than at the beginning of the twentieth century. There is a need (1) to develop rigorous research designs and to develop a clear definition of what constitutes good formal communications; (2) to determine whether some courses are more suited to formal communications than other classes; and (3) to determine whether grade level and sex of teacher are intervening variables that impede formal communication. Overall, there is a need to develop models of formal and informal communications between students and teachers. Finally, there is a need to design studies to determine if teachers' perception of their communication are similar to those of their students' perceptions of teachers' communication.

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Table 1

Varimax Rotated Factor Matrix for Unwillingness-to-Communicate Scale

Items	Factor loadings
I am afraid to speak up in conversations.	.72
I talk less because I am shy.	.64
I avoid group discussions.	.63
My students seek my opinions and advice.	.41
In conversations, I prefer to listen rather than talk.	.49
I feel nervous when I have to speak to students.	.51
I have no fears about expressing myself in a group.	.44
I find it difficult to make conversation with students whom I do not know well.	.51
I believe my students understand my feelings.	.56
My students do not listen to my ideas and suggestions.	.54
My students enjoy discussing my interests and activities with me.	.53
Students are friendly only because they want something out of me.	.60
Talking to students is just a waste of time.	.45
Students just pretend to be listening when I talk.	.69
If I got into some kind of trouble, I could not talk to students about it.	.43
I think my students are truthful with me.	.53

Table 2

Varimax Rotated Factor Matrix for Perception of Content of Lecture

Items Content of the lecture	Factor Loadings
Clear-Vague	.76
Easy-Hard	.45
Fair-Unfair	.73
Informative-Not informative	.66
Innovative-Not innovative	.40
Interesting-Boring	.65
Thorough-Incomplete	.63
Useful-Useless	.58
Well organized-Poorly organized	.78
Well prepared-Poorly prepared	.74

Table 3

Varimax Rotated Factor Matrix for Perception of Presentation

Items Presentation	Factor Loadings
Clear-Vague	.74
Comfortable-Uncomfortable	.67
Concerned-Unconcerned	.74
Energetic-Not energetic	.83
Courageous-Not courageous	.60
Dynamic-Not dynamic	.69
Fair-Unfair	.63
Informal-Formal	.43
Helpful-Unhelpful	.69
Interesting-Boring	.76
Objective-Subjective	.40
Polite-Rude	.51
Precise-Imprecise	.63

Table 4

Means for Informal and Formal Communication Variables

Levels	AA	R ^W	UNW	Cont	Pre
Biological					
Sex					
Male	17.3	17.6	34.7	53.8	70.6
Female	16.3	16.2	32.3	55.2	74.3
Psychological					
Sex					
Androgynous	15.4	18.1	31.2	56.3	74.7
Masculine	15.2	17.4	32.4	54.1	72.5
Feminine	19.9	16.8	36.7	51.6	69.5
Undifferentiated	18.1	15.8	35.8	55.1	71.0

Table 5

Two Way ANOVA for Dependent Measures

Independent Variables	Dependent Variables	Degree of Freedom	F	P
Biological Sex	Approach-Avoidance	1	5.843	.01
Psychological Sex	Approach-Avoidance	3	7.483	.001
Biological by Psychological	Approach-Avoidance	3	.91	.47
Biological Sex	Reward	1	4.056	.05
Psychological Sex	Reward	3	2.103	.10
Biological by Psychological	Reward	3	.931	.428
Biological Sex	Communication Unwillingness	1	5.368	.022
Psychological Sex	Communication Unwillingness	3	4.889	.003
Biological by Psychological	Communication Unwillingness	3	.240	.868
Biological Sex	Perception of Content	1	1.455	.230
Psychological Sex	Perception of Content	3	2.784	.044
Biological by Psychological	Perception of Content	3	.463	.709
Biological Sex	Perception of Presentation	1	8.524	.004
Psychological Sex	Perception of Presentation	3	3.110	.029
Biological by Psychological	Perception of Presentation	3	.814	.489

Table 6
Significant Scheffe for Dependent Measures

Groups	Dependent Variables	P
And VS Fem	Approach-Avoidance	.10
And VS Und	Approach-Avoidance	.10
Mas VS Fem	Approach-Avoidance	.10
Mas VS Und	Approach-Avoidance	.10
And VS Fem	Unwillingness to Communicate	.10
And VS Fem	Perception of Content	.10
And VS Fem	Perception of Presentation	.10

Table 7

Correlations Among Interpersonal and Formal
Communication Variables

	AA	RW	UNW	CON	PRE
AA		.46	.87	-.31	-.48
RW			.82	-.35	-.48
UNW				-.38	-.54
CON					-.55
PRE					